

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 26 – 43 and 57 – 92 are pending. Claim 26 has been amended. Claims 44 – 56 have been canceled, without prejudice or disclaimer of the subject matter contained therein. New claims 76 – 92 have been added.

With respect to new claims 76 – 92, these claims are of a similar scope as that of claims 26 – 43 and are merely a different way of characterizing the subject matter defined by claims 27 – 43.

Objection to Claim 53

Claim 53 has been objected under 37 CFR 1.75 as being a substantial duplicate of claim 51. In response, the Applicant submits that claim 53 has been canceled, and therefore, respectfully request withdrawal of the claim objection.

Rejections of Claims 27 – 43 and 60 under 35 USC Section 112

The Examiner has rejected claims 27 – 43 and 60 under 35 U.S.C. 112 as failing to comply with the written description requirement, in that claims 27 – 43 and 60 recite term “onsize particle fraction”. In response, the Applicants submits that claims 27, 43 and 60 have been amended such that the term “onsize particle fraction” has been replaced with the term “desired particle size fraction”. As a result, the Applicant submits that these claims are now supported by the specification and comply with the written description requirement.

Rejection of Claims 44 – 75 under 35 USC Section 103

The Examiner has rejected claims 44, 45, 47, 54 - 56, 72, 74, and 75 under 35 U.S.C. 103(a) as being unpatentable over Heath (US 3,051,586) in view of Dorfman (US 5,122,182) and Reidmeyer (US 6,432,886 91).

(A) Claims 44 – 56

The Examiner has rejected independent claim 44 as being unpatentable on two separate bases. Each of these bases is explained at, respectively, paragraphs 7 and 10 of the final office action.

In support of the rejection of claim 44 at paragraph 7, the Examiner cites U.S. Patent No. 3,051,586 issued to Heath (hereinafter, US '586), U.S. Patent No. 5,122,182 issued to Dorfman (hereinafter, US '182), and U.S. Patent No. 6,432,886 issued to Reidmeyer (hereinafter, US '886).

None of these references discloses a method by which a composition is made, and which includes the step of rendering a binder to become non-dispersible in the original liquid. Moreover, there is nothing inherent within the methods used to make the compositions described in these references which would render the respective binders to become non-dispersible. In support of this position, the Applicant hereby submits and refers to the Declaration of William Walkhouse, attached hereto as Appendix "A".

In support of the rejection of claim 44 at paragraph 10, the Examiner cites U.S. Patent No. 4,039,337 issued to Brown (hereinafter, US '337) and U.S. Patent No. 5,506,055 issued to Dorfman (hereinafter, US '055).

None of these references discloses a method by which a composition is made, and which includes the step of rendering a binder to become non-dispersible in the original liquid. Moreover, there is nothing inherent within the methods used to make the compositions described in these references which would render the respective binders to become non-dispersible. In support of this position, the Applicant hereby submits and refers to the Declaration of William Walkhouse, attached hereto as Appendix "A".

Having regard to the foregoing. The Applicant submits that claim 44 is patentable over the cited references.

With respect to claims 45 to 56, each of these claims is directly or indirectly dependent on claim 44. Accordingly, and relying on the foregoing remarks, the Applicant also submits that claims 45 to 56 are patentable over the cited references.

(B) Claims 57 – 75

The Examiner has rejected independent claim 57 as being unpatentable on two separate bases. Each of these bases is explained at, respectively, paragraphs 9 and 10 of the final office action.

(A) In support of the rejection of claim 57 at paragraph 9, the Examiner cites US '586, US '182, US' 886, US '055, and U.S. Patent No. 5,468,401 issued to Lum (hereinafter, US '401). The Examiner cites US '401 for purpose of illustrating the use of bentonite as a binder.

In response, the Applicant submits that the binder in US '401 (Lum) does not use bentonite in the concentration recited claim 57. The Applicant submits that the binder disclosed in US '401 comprises a plurality of components, and that although one of those components may be bentonite, use of bentonite within the binder system of the US '401 composition is merely as a compressibility enhancer, and that the compressibility enhancer is only a small part of such binder system. In support of this position, the Applicant hereby submits and refers to the Declaration of William Walkhouse, attached hereto as Appendix "A".

In support of the rejection of claim 57 at paragraph 10, the Examiner cites U.S. Patent No. 4,039,337 issued to Brown (hereinafter US '337) and US '055. The Examiner appears to cited US '337 for the purpose of illustrating the disclosure of a composition including a silicate binder.

In response, the Applicant submits that, a person of ordinary skill in the art, being aware of US '337 (Brown), would not consider using hydrogen aluminium silicate as a binder during the making of a solid lubricant agglomerate. This is because of the pronounced differences between hydrous aluminium silicate and the

silicates of US '337, and how these differences affect the manner by which each of them coat components of its respective solid lubricant agglomerate. The mechanism by which hydrous aluminum silicate coats components of the solid lubricant agglomerate (being made by the method as claimed in claim 57), in comparison to the mechanism by which the silicates of US '337 coats components of the solid lubricant agglomerate, is very different. Unlike the water-soluble silicates described in US '337, hydrous aluminium silicate does not actually dissolve into solution as ions. Rather, hydrous aluminium silicate disperses into platelets which are about 300 to 500 microns in diameter, and only 3 to 5 microns thick. The hydrous aluminium platelets develop concentrated areas of cations and anions. Because of this, the individual platelets have a tendency to stick together (like overlapping playing cards) and form a very strong film on the available surface of the agglomerating components as the water is driven off. In contrast, the silicates described in US '337 dissolve in water and coat the particles in US '337 by a wetting action.

Additionally, unlike the silicates described in US '337, the crystallographic structure of the hydrous aluminium silicate binder (of the solid lubricant agglomerate made in accordance with the method as claimed in claim 57) can be modified with a post-heat treatment such that the hydrous aluminium silicate binder becomes "stabilized" and cannot be re-dispersed as platelets. In contrast, the silicate binders discussed in US '337 would remain re-dissolvable. Being able to stabilize a binder, such as hydrous aluminium silicate binder (ie. render the hydrous aluminium silicate non-dispersible), is important for subsequent hydrometallurgical coating operations.

In support of this position regarding US '337, the Applicant hereby submits and refers to the Declaration of William Walkhouse, attached hereto as Appendix "A".

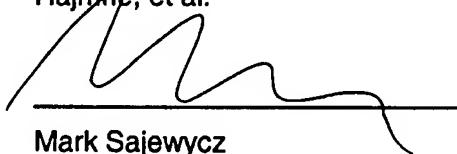
Having regard to the foregoing, the Applicant submits that claim 57 is patentable over the cited references.

With respect to claims 58 to 75, each of those claims is directly or indirectly dependent on claim 57. Accordingly, and relying on the foregoing remarks, the Applicant also submits that claims 58 to 75 are patentable over the cited references.

The Applicant respectfully requests favourable consideration, and an early Notice of Allowability. The Examiner is invited to contact Applicant's undersigned attorney at his office in Toronto at (416) 862-5795 to resolve any remaining issues.

Respectfully submitted,

Hajmre, et al.

A handwritten signature in black ink, appearing to read 'Mark Sajewycz', written over a horizontal line.

Mark Sajewycz

Registration No. 52,525

Gowling Lafleur Henderson LLP
Suite 1600, 1 First Canadian
Place, 100 King Street West
Toronto, Ontario
Canada M5X 1G5
(416) 862-7525

TOR_LAW\6719988\1

APPENDIX A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In The Matter of United States Patent Application:

Serial No. : 10/727,486
Applicant : Karel Hajmrie et al.
Filed : December 6, 2003
Group Art Unit : 1714
Confirmation No. : 2078
Examiner : Lang, Amy T
Title : Method for Producing Composite Material for Coating Applications
Our File : T8467813US
Date : September 7, 2007

The Honorable Commissioner of Patents and Trademarks
Washington, D.C.
United States of America 20231

Declaration under 37 CFR 1.132

1. I, William Walkhouse, am a co-inventor of the subject matter which is claimed and for which a patent is sought on the invention in the above-mentioned United States patent application. I have worked in the metallurgical industry since 1987, primarily as a research technologist. A copy of my résumé is attached as Exhibit "A".

2. On May 8, 2007, a final office action was mailed by the United States Patent & Trademarks Office with respect to the above-mentioned United States patent application.

3. Amongst other things, the final office action rejects independent claim 44 under 35 U.S.C. 103(a).

4. Claim 44 defines the following invention:

A method for producing solid lubricant agglomerates comprising:

admixing a plurality of components comprising a particulate solid lubricant, an inorganic binder, and a liquid to produce a mixture having about 5 to 60 weight % solids based on the total weight of the mixture, wherein the ratio of the weight of

the solid lubricant being admixed to the weight of the binder being admixed is from about 19:1 to about 1:19;

drying the mixture to produce dry agglomerates;

classifying the dry agglomerates by size, or milling and classifying the dry agglomerates by size, to obtain a desired particle size cut; and

causing the binder in the desired particle size cut to become non-dispersible in the liquid.

5. The Examiner rejects claim 44 on two separate bases. Each of these bases is explained at, respectively, paragraphs 7 and 10 of the final office action. I will address each of these bases separately, in the order that the rejections appear in the final office action.

6. In support of the rejection of claim 44 at paragraph 7, the Examiner cites U.S. Patent No. 3,051,586 issued to Heath (hereinafter, US '586), U.S. Patent No. 5,122,182 issued to Dorfman (hereinafter, US '182), and U.S. Patent No. 6,432,886 issued to Reidmeyer (hereinafter, US '886).

7. I have reviewed each of these references, and none of these references discloses a method by which a composition is made, and which includes the step of rendering a binder to become non-dispersible in the original liquid. Moreover, there is nothing inherent within the methods used to make the compositions described in these references which would render the respective binders to become non-dispersible.

8. In support of the rejection of claim 44 at paragraph 10, the Examiner cites U.S. Patent No. 4,039,337 issued to Brown (hereinafter, US '337) and U.S. Patent No. 5,506,055 issued to Dorfman (hereinafter, US '055).

9. I have reviewed each of these references, and none of these references discloses a method by which a composition is made, and which includes the step of rendering a binder to become non-dispersible in the original liquid. Moreover,

there is nothing inherent within the methods used to make the compositions described in these references which would render the respective binders to become non-dispersible.

10. The final office action also rejects independent claim 57 under 35 U.S.C. 103(a).

11. Claim 57 defines the following invention:

A method for producing solid lubricant agglomerates comprising:

admixing a plurality of components comprising a particulate solid lubricant, an inorganic binder, and a liquid to produce a mixture having about 5 to 60 weight % solids based on the total weight of the mixture, wherein the ratio of the weight of the solid lubricant being admixed to the weight of the binder being admixed is from about 19:1 to about 1:19; and

drying the mixture to produce dry agglomerates.

wherein the binder is hydrous aluminium silicate that is configured to be stabilized at temperatures above 850°C in the dry agglomerates.

12. The Examiner rejects claim 57 on two separate bases. Each of these bases is explained at, respectively, paragraphs 9 and 10 of the final office action. I will address each of these bases separately, in the order that the rejections appear in the final office action.

13. In support of the rejection of claim 57 at paragraph 9, the Examiner cites US '586, US '182, US' 886, US '055, and U.S. Patent No. 5,468,401 issued to Lum (hereinafter, US '401). The Examiner cites US '401 for purpose of illustrating the use of bentonite as a binder.

14. I have reviewed US' 401, and confirm that the US '401 binder does not use bentonite in the concentration recited in claim 57. The binder disclosed in US '401 comprises a plurality of components. Although one of those components of the US '401 binder may be bentonite, use of bentonite within the

binder system of US '401 is merely as a compressibility enhancer (see column 20, line 5), and that the compressibility enhancer is only a small part of the binder system. Certainly, US '401 does not disclose the use of a binder system, wherein the binder is hydrous aluminium silicate, in the proportions recited in claim 57.

15. In support of the rejection of claim 57 at paragraph 10, the Examiner cites U.S. Patent No. 4,039,337 issued to Brown (hereinafter US '337) and US '055. The Examiner appears to cite US '337 for purpose of illustrating the disclosure of a composition including a silicate binder.

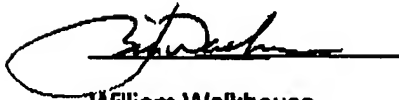
16. I have reviewed US '337, and would like to point out that a person of ordinary skill in the art, being aware of US '337, would not consider using hydrogen aluminium silicate as a binder during the making of a solid lubricant agglomerate. This is because of the pronounced differences between hydrous aluminium silicate and the silicates of US '337, and how these differences affect the manner by which each of them coat components of its respective solid lubricant agglomerate. The mechanism by which hydrous aluminum silicate coats components of the solid lubricant agglomerate (being made by the method as claimed in claim 57), in comparison to the mechanism by which the silicates of US '337 coats components of the solid lubricant agglomerate, is very different. Unlike the water-soluble silicates described in US '337, hydrous aluminium silicate does not actually dissolve into solution as ions. Rather, hydrous aluminium silicate disperses into platelets which are about 300 to 500 microns in diameter, and only 3 to 5 microns thick. The hydrous aluminium platelets develop concentrated areas of cations and anions. Because of this, individual platelets have a tendency to stick together (like overlapping playing cards) and form a very strong film on the available surface of the agglomerating components as the water is driven off. In contrast, the silicates described in US '337 dissolve in water and coat the particles in US '337 by a wetting action.

17. Additionally, unlike the silicates described in US '337, the crystallographic structure of the hydrous aluminium silicate binder (of the solid lubricant

agglomerate made in accordance with the method as claimed in claim 57) can be modified with a post-heat treatment such that the hydrous aluminium silicate binder becomes "stabilized" and cannot be re-dispersed as platelets. In contrast, the silicate binders discussed in US '337 would remain re-dissolvable. Being able to stabilize a binder, such as hydrous aluminium silicate binder (ie. render the hydrous aluminium silicate non-dispersible), is important for subsequent hydrometallurgical coating operations.

18. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on the 14 day of August, 2007.



William Walkhouse

TOR_LAW\6681565\1

EXHIBIT "A"

Bill Walkhouse

P.O. Box 968, Gibbons, AB T0A 1N0, (780) 923-2855, bill_walkhouse@yahoo.ca

Background Summary

Senior Research Technologist with extensive experience in project management, supervision, experiment design and execution, interpretation of results, report writing, pilot plant operation, equipment maintenance, instrumentation set-up, and safety coordination.

Employment

Senior Research Technologist Sulzer Metco (Canada) Inc.

December 1998 to Present

- Manage R&D projects including budgeting, scheduling, patent strategy, acquiring resources, supervision, and reporting.
- Provide technical support resources to production facility including troubleshooting, pilot plant design and operation, and process optimization.
- Provide pilot scale manufacturing resources to support other research projects and joint ventures.
- Act as Safety Coordinator and SAP Implementation Lead for R&D.
- Provide mentoring and training for R&D personnel.

Achievements:

- Scaled up four products from concept to full production capacity.
- Identified synergy between business units which realized annual savings of \$50k.
- Numerous examples of troubleshooting solutions for plant upset resulting in improvements in product quality and final recovery.
- Implementation of an early warning system significantly reducing losses.

Research Technologist Umicore Canada (Inc).

December 1995 – Dec. 1998

- Team leader for R&D projects, developing specialty materials for the electronics and hard metals industry.
- Designed complex experiments, interpreted results and wrote reports.
- Operated pilot plants.
- Sourced equipment for handling ultra-fine metallic powders.

QC Analyst The Westaim Corporation

September 1993 – Dec. 1995

- Performed physical metallurgy test work on advanced materials.
- Maintained Statistical Process Control using standardized test methods.
- Maintained test instrumentation and equipment.

Research Technologist The Westaim Corporation

October 1989 – September 1993

- Operated and maintained a small production scale inert gas atomizer to research fine metallic powder production.
- Operated a Quality Control thermal spray booth including equipment maintenance.

QC Technologist Sherritt Gordon Mines

June 1987 – October 1989

- Performed quality control tests on coinage products including Rockwell hardness, visual inspection, weights and measures.
- Performed statistical analysis and certified material for sale.

Education	Materials Engineering Technology Northern Alberta Institute of Technology	Graduated 1987 Honors Diploma
	<ul style="list-style-type: none">• Louise McKinney Scholarship for Exceptional Academic Achievement• Certificate of Merit for Scholastic Achievement	

Personal	<ul style="list-style-type: none">• Member of ASET since 1998, volunteering in the Edmonton Chapter Executive from 1999 to the present.• Active in my community as a soccer coach and field coordinator.• Lifelong fitness and sports enthusiast.
-----------------	---

References	Available on Request
-------------------	----------------------